

Amendments to the Claims

Please Amend Claims 1, 2, 6, 8 and 12, Cancel Claims 14-37 and add new Claims 38-63 as shown. This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently amended): A method for annotating a data object, the data object consisting of digital data, the method comprising the steps of:

creating a first digital fingerprint value from the digital data of the data object, the data object stored at a first location;

creating a first annotation object;

creating a first relationship relating the first digital fingerprint value to the first location;

creating a second relationship relating the first digital fingerprint value to the first annotation object; and

saving in an annotation store any one of the first relationship or the second relationship.

2. (Currently amended): The method according to claim 1 wherein the first digital fingerprint value is created from any one of the digital data of the object, the digital data of one or more portions of the object, or the digital data of the object combined with other digital data or the digital data of the location of the object.

3. (Previously presented): The method according to claim 1 wherein the digital fingerprint value is created using any one of a checksum algorithm, a cyclic redundancy check, a hash algorithm, the SHA-256 secure hash algorithm, the SHA-1 secure hash algorithm or the MD5 message digest algorithm.

4. (Previously presented): The method according to claim 1 comprising the further steps of:

    creating a second annotation object;

    creating a third relationship the third relationship relating the first digital fingerprint to the second annotation object; and

    saving the third relationship in the annotation store.

5. (Previously presented): The method according to claim 1 comprising the further steps of:

    locating the data object at a second location;

    creating a fourth relationship relating the first digital fingerprint to the second location; and

    saving the fourth relationship in the annotation store.

6. (Currently amended): A method for accessing an annotated data object, the method comprising the steps of:

    obtaining a first digital fingerprint value for a data object;

    finding any one of a first annotation object having a relationship to the first digital fingerprint value or the data object having a relationship to the first digital fingerprint value; and

    retrieving any one of the first annotation object found or the data object found.

7. (Previously presented): The method according to claim 6 wherein the finding step comprises the further step of querying an annotation store for an entry containing the first digital fingerprint value and a first relationship of the first digital fingerprint to any one of an annotation object or the location of the data object.

8. (Currently amended): The method according to claim 6 wherein the obtaining step comprises the further step of any one of:

calculating the first digital fingerprint value ~~of~~ from the digital data of the data object; or

querying an annotation store for a second annotation object and the first digital fingerprint associated with the second annotation object.

9. (Previously presented): A method for accessing a data object, the method comprising the steps of:

retrieving at a first location a first digital fingerprint value of a first data object, a first annotation object related to the first digital fingerprint and a first identity of a second location related to the first digital fingerprint, the second location comprising location of the data object;

retrieving the data object from the second location; and

relating the first annotation object with the data object retrieved.

10. (Previously presented): The method according to claim 9 wherein the retrieving step comprises the further steps of:

    determining that the data object is not at the second location;

    searching a second database for data objects having the first digital fingerprint; and

    retrieving the data object from a third location in the second database.

11. (Previously presented): The method according to claim 10 further comprising the step of repeating the steps of claim 10 according to a predetermined plan.

12. (Currently amended): The method according to claim ~~10~~ 9 comprising the further step of recording at the first location, the first relationship of the first digital fingerprint value and third location of the data object retrieved from the second database.

13. (Previously presented): A method for annotating a data object, the method comprising the steps of:

    associating a digital fingerprint value of a first data object with a first location of the first data object;

    associating the digital fingerprint value of the first data object with a second location of a second data object; and

    associating the first data object with the second data object using the digital fingerprint value of the first data object.

Claims 14-37 Canceled

38. (New): A computer program product for annotating a data object, the data object consisting of digital data, the computer program product comprising:

    a tangible storage medium readable by a processing circuit and storing instructions for execution by the processing circuit for performing a method comprising:

        creating a first digital fingerprint value from the digital data of the data object, the data object stored at a first location;

        creating a first annotation object;

        creating a first relationship relating the first digital fingerprint value to the first location;

        creating a second relationship relating the first digital fingerprint value to the first annotation object; and

        saving in an annotation store any one of the first relationship or the second relationship.

39. (New): The computer program product according to claim 38 wherein the first digital fingerprint value is created from any one of the digital data of the object, digital data of one or more portions of the object or the digital data of the object combined with other digital data.

40. (New): The computer program product according to claim 38 wherein the digital fingerprint value is created using any one of a checksum algorithm, a cyclic redundancy check, a hash algorithm, the SHA-256 secure hash algorithm, the SHA-1 secure hash algorithm or the MD5 message digest algorithm.

41. (New): The computer program product according to claim 38 comprising the further steps of:

    creating a second annotation object;

    creating a third relationship the third relationship relating the first digital fingerprint to the second annotation object; and

    saving the third relationship in the annotation store.

42. (New): The computer program product according to claim 38 comprising the further steps of:

    locating the data object at a second location;

    creating a fourth relationship relating the first digital fingerprint to the second location; and

    saving the fourth relationship in the annotation store.

43. (New): A computer program product for accessing an annotated data object, the computer program product comprising:

    a tangible storage medium readable by a processing circuit and storing instructions for execution by the processing circuit for performing a method comprising:

        obtaining a first digital fingerprint value for a data object;

        finding any one of a first annotation object having a relationship to the first digital fingerprint value or the data object having a relationship to the first digital fingerprint value; and

        retrieving any one of the first annotation object found or the data object found.

44. (New): The computer program product according to claim 43 wherein the finding step comprises the further step of querying an annotation store for an entry containing the first digital fingerprint value and a first relationship of the first digital fingerprint to any one of an annotation object or the location of the data object.

45. (New): The computer program product according to claim 43 wherein the obtaining step comprises the further step of any one of:

calculating the first digital fingerprint value from the digital data of the data object; or

querying an annotation store for a second annotation object and the first digital fingerprint associated with the second annotation object.

46. (New): A computer program product for accessing a data object, the computer program product comprising:

a tangible storage medium readable by a processing circuit and storing instructions for execution by the processing circuit for performing a method comprising:

retrieving at a first location a first digital fingerprint value of a first data object, a first annotation object related to the first digital fingerprint and a first identity of a second location related to the first digital fingerprint, the second location comprising location of the data object;

retrieving the data object from the second location; and

relating the first annotation object with the data object retrieved.

47. (New): The computer program product according to claim 46 wherein the retrieving step comprises the further steps of:

    determining that the data object is not at the second location;

    searching a second database for data objects having the first digital fingerprint; and

    retrieving the data object from a third location in the second database.

48. (New): The computer program product according to claim 46 further comprising the step of repeating the steps of claim 46 according to a predetermined plan.

49. (New): The computer program product according to claim 46 comprising the further step of recording at the first location, the first relationship of the first digital fingerprint value and third location of the data object retrieved from the second database.

50. (New): A computer program product for annotating a data object, the computer program product comprising:

    a tangible storage medium readable by a processing circuit and storing instructions for execution by the processing circuit for performing a method comprising:

        associating a digital fingerprint value of a first data object with a first location of the first data object;

        associating the digital fingerprint value of the first data object with a second location of a second data object; and

        associating the first data object with the second data object using the digital fingerprint value of the first data object.

51. (New): A computer system for annotating a data object, the system comprising:

    a main storage;

    one or more central processors in communications with a main storage, wherein the computer system includes instructions to execute a method comprising:

        creating a first digital fingerprint value from the digital data of the data object, the data object consisting of digital data, the data object stored at a first location;

        creating a first annotation object;

        creating a first relationship relating the first digital fingerprint value to the first location;

        creating a second relationship relating the first digital fingerprint value to the first annotation object; and

        saving in an annotation store any one of the first relationship or the second relationship.

52. (New): The system according to claim 51 wherein the first digital fingerprint value is created from any one of the digital data of the object, digital data of one or more portions of the object or the digital data of the object combined with other digital data.

53. (New): The system according to claim 51 wherein the digital fingerprint value is created using any one of a checksum algorithm, a cyclic redundancy check, a hash algorithm, the SHA-256 secure hash algorithm, the SHA-1 secure hash algorithm or the MD5 message digest algorithm.

54. (New): The system according to claim 51 comprising the further steps of:

creating a second annotation object;

creating a third relationship the third relationship relating the first digital fingerprint to the second annotation object; and

saving the third relationship in the annotation store.

55. (New): The system according to claim 51 comprising the further steps of:

locating the data object at a second location;

creating a fourth relationship relating the first digital fingerprint to the second location; and

saving the fourth relationship in the annotation store.

56. (New): A system for accessing an annotated data object, the system comprising:

a main storage;

one or more central processors in communications with a main storage, wherein the computer system includes instructions to execute a method comprising;

obtaining a first digital fingerprint value for a data object;

finding any one of a first annotation object having a relationship to the first digital fingerprint value or the data object having a relationship to the first digital fingerprint value; and

retrieving any one of the first annotation object found or the data object found.

57. (New): The system according to claim 56 wherein the finding step comprises the further step of querying an annotation store for an entry containing the first digital fingerprint value and a first relationship of the first digital fingerprint to any one of an annotation object or the location of the data object.

58. (New): The system according to claim 56 wherein the obtaining step comprises the further step of any one of:

calculating the first digital fingerprint value from the digital data of the data object; or

querying an annotation store for a second annotation object and the first digital fingerprint associated with the second annotation object.

59. (New): A system for accessing a data object, the system comprising:

a main storage;

one or more central processors in communications with a main storage, wherein the computer system includes instructions to execute a method comprising;

retrieving at a first location a first digital fingerprint value of a first data object, a first annotation object related to the first digital fingerprint and a first identity of a second location related to the first digital fingerprint, the second location comprising location of the data object;

retrieving the data object from the second location; and relating the first annotation object with the data object retrieved.

60. (New): The system according to claim 59 wherein the retrieving step comprises the further steps of:

    determining that the data object is not at the second location;

    searching a second database for data objects having the first digital fingerprint; and

    retrieving the data object from a third location in the second database.

61. (New): The system according to claim 60 further comprising the step of repeating the steps of claim 60 according to a predetermined plan.

62. (New): The system according to claim 59 comprising the further step of recording at the first location, the first relationship of the first digital fingerprint value and third location of the data object retrieved from the second database.

63. (New): A system for annotating a data object, the system comprising the steps of:

    associating a digital fingerprint value of a first data object with a first location of the first data object;

    associating the digital fingerprint value of the first data object with a second location of a second data object; and

    associating the first data object with the second data object using the digital fingerprint value of the first data object.